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REED SMITH LLP 3110 FAIRVIEW PARK DRIVE, SUITE 1400 FALLS CHURCH, VA 22042			WILSON, ROBERT W	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/809,215

Applicant(s)

SUZUKI ET AL.

Examiner

Robert W. Wilson

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/28/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2661

***Claim Rejections - 35 USC § 103***

1.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyon (U.S. Patent No.: 6,721,273) in view of Lin (U.S. Patent No.: 5,764,641).

Referring to Claim 1, Lyon teaches: A packet data transfer method for an IP (Internet Protocol) network or an MPLS (Multi-Protocol Label Switching network (MPLS and IP are not referred to as limitations in the claims; therefore, they are interpreted as intended use. (Packet transfer per Fig 1) comprising the steps of:

Retaining identifier data for identifying data to be processed and identifier data for controlling the processing, in a packet transfer apparatus having a plurality of Input or Output ports (Figure 1 teaches input or output ports; emission priority level or EPL or flow identifier per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18; CLP or control code per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18)

Receiving a packet data provided with said flow identifier data and said control code data (cells or packets are received with EPL or flow identifier and CLP or control code per Fig 1) and

Discarding packet data identified by the flow identifier data upon congestion in the packet data transfer apparatus, performing discard initiation or termination based on said control code (cells or packets are with EPL flow identifier are discarded based upon the value of CLP when a congestion is detected per col. 7 line 19-col. 8 line 47)

Lyon does not expressly call for: wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data but teaches discard per col. 7 line 19-col. 8 line 47 and col. 11 line 9-col. 13 line 18

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

Art Unit: 2661

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the ATM discarding of Lyon so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

In Addition Lyon teaches:

Regarding Claim 2, wherein the discard initiation and the discard termination of the packet data identified as the packet data to be processed are conducted at the packet data include predetermined control code data (It would have been obvious to one of ordinary skill in the art at the time of the invention that the CLP in the cell header is determined based upon a predetermined sequence of bits or code associated with discarding in order for the invention to work)

Regarding Claim 3, wherein the discard initiation and the discard termination of the packet data identified as packet data to be processed are conducted at packet data that follows packet data including predetermined control code (All of the cells or packets inherently have CLP in the header or control code)

Regarding Claim 4, wherein said flow identifier data indicated image data, said control code data is generated from any of a sequence initiation code, a GOP (Group of Pictures) initiation code, a picture (image frame) initiation code, and a slice initiation code included the image data (The examiner takes official notice that sending image or video data in ATM cells is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention that the EPL or priority code in the ATM cell would vary base upon receipt of an image or video cell header)

Regarding Claim 5, a buffer data mount at the output stage of the packet data transfer apparatus is monitored as to whether or not it is greater than or equal to a predetermined amount (hereinafter, referred to as discard initiation or termination point")

If said buffer data amount decreases to fall below the discard initiation or termination point, and packet data including predetermined control code data and flow identifier data is received, then the discard of packet data including that flow identifier is terminated (If buffer containing packets decreases below a threshold then packet are discarded based upon CLP stops per col. 7 line 19-col. 8 line 47)

Regarding Claim 6, wherein a plurality of discard initiation or termination points are established in association with different flow identifier data each (The reference teaches a plurality of buffers each of which have different EPL or flow identifiers per col. 7 line 19-col. 8 line 47);

said buffer data mount is monitored as to whether or not it is greater than or equal to the plurality of discard initiation/termination points established (col. 7 line 19-col. 8 line 47) ;

Art Unit: 2661

if said buffer data mount increase to reach or exceed any of the discard initiation/termination points, and packet data including predetermined control data and flow identifier data associated with that discard initiation/termination point is received, then the discard data including that flow identifier is initiated (When buffer exceeds threshold then buffer discarded based upon CLP per col. 7 line 19-col. 8 line 47); and

if said buffer data mount decreases to fall below any of the discard initiation or termination points, and packet data including predetermined control code data and the flow identifier data associated with that discard initiation/termination point is received, then the discard packet data including that flow identifier data is terminated (When buffer is below the threshold then discarding ceases per col. 7 line 19-col. 8 line 47);.

Regarding Claim 7, wherein: a buffer data amount at the output stage of the packet data transfer apparatus is monitored as to whether or not it is greater than or equal to a first predetermined amount (hereinafter, referred to as "discard initiation point" (counts at output port per col. 2 line 50-55 and per col. 7 line 19-col. 8 line 47) ;

if said buffer data mount increase to reach or exceed any of the discard initiation/termination points, and packet data including predetermined control data and flow identifier data associated with that discard initiation/termination point is received, then the discard data including that flow identifier is initiated (When buffer exceeds threshold then buffer discarded based upon CLP per col. 7 line 19-col. 8 line 47); and

if said buffer data mount decreases to fall below any of the discard initiation/termination points, and packet data including predetermined control code data and the flow identifier data associated with that discard initiation/termination point is received, then the discard packet data including that flow identifier data is terminated (When buffer is below the threshold then discarding ceases per col. 7 line 19-col. 8 line 47);.

Regarding Claim 8, wherein a plurality of discard initiation or termination points are established in association with different flow identifier data each (The reference teaches a plurality of buffers each of which have different EPL or flow identifiers per col. 7 line 19-col. 8 line 47);

Said buffer data mount is monitored as to whether or not it is greater than or equal to the plurality of discard initiation points established, and whether or not it is greater than or equal to the plurality of discard termination points established (When buffer exceeds threshold or is greater than or equal then buffer discarded based upon CLP per col. 7 line 19-col. 8 line 47);

if said buffer data amount decreases to fall below the discard termination point, and packet data including predetermined control code data and flow identifier data is received, then the discard of packet data including that flow identifier data is terminated (When buffer is below the threshold then discarding ceases per col. 7 line 19-col. 8 line 47);.

Art Unit: 2661

***Claim Rejections - 35 USC § 103***

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyon (U.S. Patent No.: 6,721,273) in view of Roy (U.S. Patent No.: 6,324,169) further in view of Lin ((U.S. Patent No.; 5,764,641).

Referring to Claim 9, Lyon teaches: A packet data transfer method for transferring packet data by using a router comprising a plurality of ingress cards each for establishing connection with an input line (Fig 1),

a plurality of egress cards each having a data discard function and buffer for establishing connection with an output line (Fig 1)

a switching connected to said plurality of ingress cards and said plurality of egress cards (Fig 1)

said packet data being a plurality of pieces of packet data into which layered coded image frame data is packetized by layer (The ATM cell inherently carries payload data ) having a header including a field to be set with destination address (The ATM cell inherently has VPI/VCI or destination address); a field to be set with a flow identifier for each layer (ATM inherently has a PTI or flow identifier for each layer) and a field to be set with control code data for initiating or terminating discard (CLP or control code per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18; and input/output ports per Fig 1) wherein:

packet data input to said ingress card is transferred to said switch so that the packet data is transferred to egress cards corresponding to the value of its address field (data switched based upon VPI/VCI per Fig 1)

if the amount of packet data residing in any of said buffers exceeds a predetermined threshold value, the packet data to be input to that buffer is discarded by layer, based upon a control code data and depending on said flow identifier data (The applicant broadly claims "layer". The examiner has interpreted a group of cells with a given EPL and CLP or layer are discarded when a threshold has been exceeded per col. 7 line 19-col. 8 line 47. The examiner has interpreted the EPL or flow identifier and CLP or control code per col. 7 line 19-col. 8 line 47)

Art Unit: 2661

Lyon does not expressly call for: packet data being a plurality of pieces of packet data into which layered coded image frame data is packetized by layer but teaches ATM cell inherently carries payload data or wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data but teaches discard per col. 7 line 19-col. 8 line 47 and col. 11 line 9-col. 13 line

Roy teaches : packet data being a plurality of pieces of packet data into which layered coded image frame is packetized by layer (Multimedia including video carried in an ATM cell per col. 4 lines 20-41 or per Figs 2 &3

It would have been obvious to one of ordinary skill in the art at the time of the invention to add image or video packet of Roy to the ATM cells of Lyon in order to carry multimedia in ATM cells.

The combination of Lyon and Roy does not expressly call for: wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the ATM discarding of Lyon and Roy so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network

Referring to Claim 10, Lyon teaches: A packet data transfer apparatus comprising a plurality of ingress cards each for establishing connection with an input line (Fig 1),

a plurality of egress cards each having a data discard function and buffer for establishing connection with an output line (Fig 1)

a switch connected to said plurality of ingress cards and said plurality of egress cards (Fig 1)

mean for discarding (Figs 4-5 & 15)

wherein packet data input to said ingress cards to said switch so that the packet data is transferred to egress cards corresponding to the value of its address field ( The ATM cell inherently has VPI/VCI or destination address which is utilized for switching per Fig 1)

Art Unit: 2661

said packet includes a plurality of pieces of data into which layered coded image frame data is packetized by layer (The ATM cell inherently carries payload data ) having a header including a field to be set with destination address (The ATM cell inherently has VPI/VCI or destination address); a field to be set with a control code for initiating or terminating discard (CLP or control code per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18) and said

means for discarding, when the amount of packet data residing in any of said buffers exceeds a predetermined threshold value, discards the packet data to be input to that buffer by layer based on said control code data and depending on said flow identifier data (Fig 4-5 & 15 or means. The applicant broadly claims "layer". The examiner has interpreted a group of cells with a given EPL and CLP or layer are discarded when a threshold has been exceeded per col. 7 line 19-col. 8 line 47. The examiner has interpreted the EPL or flow identifier and CLP or control code per col. 7 line 19-col. 8 line 47)

Lyon does not expressly call for: packet data being a plurality of pieces of packet data into which layered coded image frame data is packetized by layer but teaches ATM cell inherently carries payload data or wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data but teaches discard per col. 7 line 19-col. 8 line 47 and col. 11 line 9-col. 13 line

Roy teaches : packet data being a plurality of pieces of packet data into which layered coded image frame is packetized by layer (Multimedia including video carried in an ATM cell per col. 4 lines 20-41 or per Figs 2 & 3

It would have been obvious to one of ordinary skill in the art at the time of the invention to add image or video packet of Roy to the ATM cells of Lyon in order to carry multimedia in ATM cells.

The combination of Lyon and Roy does not expressly call for: wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the ATM discarding of Lyon and Roy so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.



Art Unit: 2661

***Claim Rejections - 35 USC § 103***

3.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen (U.S. Patent No.: 6,452,915) in view of Lemyre (U.S. Patent No.; 6,717,912) further in view of Lin (U.S. Patent No.; 5,764,641).

Referring to Claim 11, Jorgensen data distribution scheme on an IP network (Fig 5a)

For distributing transmission data with flow identifier data for identifying said transmission data and control code data for controlling the discard initiation or termination of said transmission data in the middle of transmission arranged in a DS (Differentiated service) field in the IP packet header thereof (TOS or Class of service or Flow identifier per Fig 7 and per col. 18 line 8-67)

Jorgensen does not expressly call for: discarding but teaches differentiated service identification based upon TOS or wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data but teaches discard.

Lemyre teaches: discarding based upon class of service per col. 9 lines 1-25.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discarding of Lemyre distinguishing of Farrell based upon TOS in order to prioritized data which is discarded in a congestion situation.

The combination of Jorgensen and Lemyre does not expressly call for: wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data but teaches discard

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets or Lin to the ATM discarding of the combination of Jorgensen and Lemyre

Art Unit: 2661

so that packets would be discarded in a manner so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

***Claim Rejections - 35 USC § 103***

4.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyon et. al. (U.S. Patent No.; 5,892,924) in view of Lyon et. al. (U.S. Patent No.: 6,721,273) further in view of Lin (U.S. Patent No.: 5,764,641)

Referring to Claim 12, Lyon teaches a data distribution scheme on a MPLS network (Fig 2), for distribution transmission data with flow identifier data for identifying said transmission data and control code data for controlling the discard initiation or termination of said transmission data in the middle of transmission arranged in a label field in the MPLS packet header thereof (Adding a label or flow identifier to ATM cell or UDP packet encapsulated in ATM cell per col. 8 lines 10-col. 10 line 18 or col. 15 line 13-col. col. 14 line 47. )

Lyon et. al. (U.S. Patent No.: 5,892,924) does not expressly call for: discarding based upon a control code but teaches an ATM cell or wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Lyon et. al. (U.S. Patent No.: 6,721,273) teaches: discarding based upon a control code (CLP field in the ATM header per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the CLP in the header of the ATM cell in order to determine which cell is to be discarded upon detection of a congestion in order to be standards compliant.

The combination of Lyon and Lyon does not expressly call for: or wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Art Unit: 2661

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the ATM discarding of Lyon and Lyon so that packets would be discarded with low priority. It is within the level of one skilled in the art at the time of the invention to adjust parameters or begin discarding in the middle of a packet instead of the beginning of the packet .

Referring to Claim 13, Lyon (U.S. Patent No.: 5,892,924) teaches: A packet data generating method for generating packet data from layered data consisting of a plurality of streams (Fig 2) wherein;

Flow identifier data for identifying each layered data to be transmitted and control code for initiating or terminating a discard operation when congestion occurs during transmission are added to each piece of said layered data partitioned by predetermined size to form layered packet data (Adding a label or flow identifier to ATM cell or UDP packet encapsulated in ATM cell per col. 8 lines 10-col. 10 line 18 or col. 15 line 13-col. col. 14 line 47. The ATM cell has an inherent PTI in the header which is utilized to identify payloads or pieces of said layered data partitioned by predetermined size to form layered packet data)

UDP (User Datagram Protocol) headers are added thereto for UDP packetization (UDP packet encapsulated in ATM cell inherently has a UDP header per col. 8 lines 10-col. 10 line 18 or col. 15 line 13-col. col. 14 line 47

Lyon et. al. (U.S. Patent No.: 5,892,924) does not expressly call for: discarding based upon a control code but teaches an ATM cell or wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Lyon et. al. (U.S. Patent No.: 6,721,273) teaches: discarding based upon a control code (CLP field in the ATM header per col. 7 line 19-col. 8 line 47 and col. 11 line 9- col. 13 line 18

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the CLP in the header of the ATM cell in order to determine which cell is to be discarded upon detection of a congestion in order to be standards compliant.

Art Unit: 2661

The combination of Lyon and Lyon does not expressly call for: wherein the discard is initiated at the beginning of a meaningful frame or slice of audiovisual data rather than in the middle of the meaningful frame or slice of audiovisual data

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the ATM discarding of Lyon and Lyon so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

### ***Claim Rejections - 35 USC § 103***

5.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy (U.S. Patent No.: 6,324,169 B1) in view of Comer in view of Slane (U.S. Patent No.: 6,279,140 b1) further in view of Lin (U.S. Patent No.: 5,764,641).

Referring to claim 14, Roy teaches: a data shaping method (Figs 2 & 3) comprising the steps of:

Receiving a data flow which is distributed after creating a manner that flow identifier data for identifying each layered data consisting of a plurality of streams.

A sequence number to be consecutively given to data partitioned by predetermined size and a control data code for initiating or terminating a discard operation of each layered data are added to each layered data partitioned by said predetermined size to create layered packet data followed by UDP packetization and IP packetization (12-2, 11-2, & 10-2 per Fig 2 receives real time multimedia packet encapsulated RTP which is encapsulated UDP which is encapsulated in IP which is encapsulated ATM or layered data consisting of a plurality of streams.)

Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (UDP packets per Figs 2 & 3)

Art Unit: 2661

Checking for continuity in the sequence numbers of said reconstructed layered packet data by each flow identifier data (RTP inherently checks for sequence numbers) When the sequence numbers are discontinuous, and if said control code data is control code for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately preceding the layered packet data including the next control code data)

When the sequence numbers are discontinuous, and if said control code data is control code data for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately determining the layered packet data including the next control code data, and if said control code data is control code data for terminating the discard operation, discarding subsequently-received layered packet data up to the one including the next control code data (RTP inherently assigns a Sequence number and time stamp which are utilized to determine which data is to be discarded);

Applying UDP and IP packetization to following layered packet data, and distributing the resultant to the same destination that is received (Figures 2 & 3)

Roy does not expressly call for: flow identifier or sequence number or sequence number but teaches a TCP/IP packet or reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Comer teaches: flow identifier (payload type) or sequence number per Page 542-551.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flow identifier and packet type of Comer to system of Roy in order to be standards compliant.

The combination of Roy and Comer does not expressly call for: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Slane teaches: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (col. 10 line 48-55)

It would have been obvious to one of ordinary skill in the art at the of the invention to add the checksum of Slane to the video UDP encapsulating system of Roy and Comer in order minimize error when receiving UDP protocol.

Art Unit: 2661

The combination of Roy and Comer and Slane does not expressly call for: or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets which contain MPEG or audiovisual frames or slices of Lin to the the ATM discarding of the combination of Roy and Comer and Slade so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

Referring to claim 15, It is within the level of one skilled in the art at the time of the invention to implement all the limitations of method claim 14 as an apparatus or means. Refer to the rejection in claim 14 for details.

Referring to claim 15, Roy teaches: a data shaping method (Figs 2 & 3) comprising the steps of:

Means for receiving a data flow which is distributed after creating a manner that flow identifier data for identifying each layered data consisting of a plurality of streams.

A sequence number to be consecutively given to data partitioned by predetermined size and a control data code for initiating or terminating a discard operation of each layered data are added to each layered data partitioned by said predetermined size to create layered packet data followed by UDP packetization and IP packetization (12-2, 11-2, & 10-2 per Fig 2 receives real time multimedia packet encapsulated RTP which is encapsulated UDP which is encapsulated in IP which is encapsulated ATM or layered data consisting of a plurality of streams.)

Means for reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (UDP packets per Figs 2 & 3)

Means for checking for continuity in the sequence numbers of said reconstructed layered packet data by each flow identifier data (RTP inherently checks for sequence numbers) When the sequence numbers are discontinuous, and if said control code data is control code for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately preceding the layered packet data including the next control code data)

Means for discarding, if said control code data is control code data for initiating the discard operation, subsequently-received layered packet data up to the one immediately preceding the layered packet data including the next control code data, as well as discarding, if said control data code is control data code for terminating the discard operation, subsequently-received layered packet data up to the one including the next control code data, applying UDP

Art Unit: 2661

packetization and IP packetization to following layered packet data, and distributing the resultant to the same destination as the time of reception, in the cases where the sequence numbers are discontinuous (RTP inherently assigns a Sequence number and time stamp which are utilized to determine which data is to be discarded);

Means for applying UDP and IP packetization to following layered packet data, and distributing the resultant to the same destination that is received (Figures 2 & 3)

Roy does not expressly call for: flow identifier or sequence number or sequence number but teaches a TCP/IP packet or reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Comer teaches: flow identifier (payload type) or sequence number per Page 542-551.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flow identifier and packet type of Comer to system of Roy in order to be standards compliant.

The combination of Roy and Comer does not expressly call for: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Slane teaches: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (col. 10 line 48-55)

It would have been obvious to one of ordinary skill in the art at the of the invention to add the checksum of Slane to the video UDP encapsulating system of Roy and Comer in order minimize error when receiving UDP protocol.

The combination of Roy and Comer and Slane does not expressly call for: or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets of Lin to the ATM discarding of the combination of Roy and Comer and

Art Unit: 2661

Slade so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

Referring to claim 16, Roy teaches: decoding scheme (Figs 2 & 3) comprising the steps of:

Receiving a data flow which is distributed after creating a manner that flow identifier data for identifying each layered data consisting of a plurality of streams.

A sequence number to be consecutively given to data partitioned by predetermined size and a control data code for initiating or terminating a discard operation of each layered data are added to each layered data partitioned by said predetermined size to create layered packet data followed by UDP packetization and IP packetization (12-2, 11-2, & 10-2 per Fig 2 receives real time multimedia packet encapsulated RTP which is encapsulated UDP which is encapsulated in IP which is encapsulated ATM or layered data consisting of a plurality of streams.)

Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (UDP packets per Figs 2 & 3)

Checking for continuity in the sequence numbers of said reconstructed layered packet data by each flow identifier data (RTP inherently checks for sequence numbers) When the sequence numbers are discontinuous, and if said control code data is control code for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately preceding the layered packet data including the next control code data)

When the sequence numbers are discontinuous, and if said control code data is control code data for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately determining the layered packet data including the next control code data, and if said control code data is control code data for terminating the discard operation, discarding subsequently-received layered packet data up to the one including the next control code data (RTP inherently assigns a Sequence number and time stamp which are utilized to determine which data is to be discarded);

Applying UDP and IP packetization to following layered packet data, and distributing the resultant to the same destination that is received (Figures 2 & 3)

Roy does not expressly call for: flow identifier or sequence number or sequence number but teaches a TCP/IP packet or reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Comer teaches: flow identifier (payload type) or sequence number per Page 542-551.



Art Unit: 2661

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flow identifier and packet type of Comer to system of Roy in order to be standards compliant.

The combination of Roy and Comer does not expressly call for: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Slane teaches: reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (col. 10 line 48-55)

It would have been obvious to one of ordinary skill in the art at the of the invention to add the checksum of Slane to the video UDP encapsulating system of Roy and Comer in order minimize error when receiving UDP protocol.

The combination of Roy and Comer and Slane does not expressly call for: wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Lin teaches: MPEG or audio visual frame or slice are marked for discard via setting CLP bit per col. 2 line 10-36 wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33) 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets or Lin to the ATM discarding of the combination of Roy and Comer and Slane so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

Referring to claim 17, Roy teaches: a decoding scheme (Figs 2 & 3) comprising the steps of:

Receiving a data flow which is distributed after creating a manner that flow identifier data for identifying each layered data consisting of a plurality of streams.

A sequence number to be consecutively given to data partitioned by predetermined size and a control data code for initiating or terminating a discard operation of each layered data are added to each layered data partitioned by said predetermined size to create layered packet data followed by UDP packetization and IP packetization (12-2, 11-2, & 10-2 per Fig 2 receives real time multimedia packet encapsulated RTP which is encapsulated UDP which is encapsulated in IP which is encapsulated ATM or layered data consisting of a plurality of streams)

Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (UDP packets

Art Unit: 2661

per Figs 2 & 3)

Discarding data if UDP data is UDP data is not reconstructible from the data (UDP packets per Figs 2 & 3)

Checking for continuity in the sequence numbers of said reconstructed layered packet data by each flow identifier data (RTP inherently checks for sequence numbers) When the sequence numbers are discontinuous, and if said control code data is control code for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately preceding the layered packet data including the next control code data)

When the sequence numbers are discontinuous, and if said control code data is control code data for initiating the discard operation, discarding subsequently-received layered packet data up to the one immediately determining the layered packet data including the next control code data, and if said control code data is control code data for terminating the discard operation, discarding subsequently- received layered packet data up to the one including the next control code data (RTP inherently assigns a Sequence number and time stamp which are utilized to determine which data is to be discarded);

Applying UDP and IP packetization to following layered packet data, and distributing the resultant to the same destination that is received (Figures 2 & 3)

Roy does not expressly call for: flow identifier or sequence number or sequence number but teaches a TCP/IP packet or reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Comer teaches: flow identifier (payload type) or sequence number per Page 542-551.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flow identifier and packet type of Comer to system of Roy in order to be standards compliant.

The combination of Roy and Comer does not expressly call for: Reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible but teaches UDP packet per Figs 2-3 or wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Slane teaches: reconstructing UDP packet flow and said layered packet data from the IP packet data flow received and discarding data from which UDP data is not reconstructible (col. 10 line 48-55)

Art Unit: 2661

It would have been obvious to one of ordinary skill in the art at the of the invention to add the checksum of Slane to the video UDP encapsulating system of Roy and Comer in order minimize error when receiving UDP protocol.

The combination of Roy and Comer and Slane does not expressly call for: wherein the discard is initiated at a beginning of a meaningful frame or slice of audiovisual data rather than in a middle of the meaningful frame or slice of audiovisual data.

Lin teaches: wherein the discard is initiated at the beginning of meaningful data rather than in the middle of the meaningful data (Abstract or per col. 2 line 19-col. 4 line 33)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discard of packets or Lin to the ATM discarding of the combination of Roy and Comer and Slane so that packets would not be discarded in a manner so that unusable partial packets would not be transmitted into the network.

### *Claim Rejections - 35 USC § 103*

6.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable Harriman (U.S. Patent No.: 5,898,687) in view of Lin (U.S. Patent No.: 5,764,641).

Referring to claim 18, Harriman teaches : Figure 1 which is a packet data duplicating and distributing method in which the ATM cell has a packet header which is used as a flow identifier to indicated where the payload is located. The reference refers to remaining header information or control data code which indicates whether the cell or packet should be duplicated per col. 3 lines 46-col. 5 line 67. Figure 1 receives the cell or packet initiates and terminates duplication based upon the remaining header information of control code. The applicant broadly claims “duplication is initiated at the beginning of a meaningful frame or slice of audio visual data rather than in the middle of the meaningful frame or slice of audio visual data.” The reference teaches that the duplication process is initiated by duplication of the payload which is stored in SHARED MEMORY and ASSEMBLED with a NEW HEADER which is the beginning of meaningful frame or slice per Fig 1.

Art Unit: 2661

Harriman does not expressly call for: audiovisual data.

Lin teaches: MPEG which are cells of audiovisual data per col. 2 line 10-56

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the MPEG or audiovisual data of Lin to the method of Harriman because the MPEG is a type of cell.

Referring to claim 19, Harriman teaches : Figure 1 which is a packet data duplicating and distributing apparatus in which the ATM cell has a packet header which is used as a flow identifier to indicated where the payload is located. The reference refers to remaining header information or control data code which indicates whether the cell or packet should be duplicated per col. 3 lines 46-col. 5 line 67. The examiner interprets beginning with the payload as duplication being initiated based upon the beginning of meaningful data.

ITF per Fig 1 is the means for retaining the header which is the flow identifier. Input ports per Fig 1 or means to receive. Multicast engine per Fig 1 or means for performing. The applicant broadly claims ““duplication is initiated at the beginning of a meaningful frame or slice of audio visual data rather than in the middle of the meaningful frame or slice of audio visual data.” The reference teaches that the duplication process is initiated by duplication of the payload which is stored in SHARED MEMORY and ASSEMBLED with a NEW HEADER which is the beginning of meaningful frame or slice per Fig 1.

Harriman does not expressly call for: audiovisual data.

Lin teaches: MPEG which are cells of audiovisual data per col. 2 line 10-56

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the MPEG or audiovisual data of Lin to the method of Harriman because the MPEG is a type of cell.

### ***Response to Applicant Argument***

7.0 Applicant's arguments filed 9/28/05 have been fully considered but they are not persuasive.

The examiner respectfully disagrees with the applicant's argument that the reference Lin failed to teach: an audiovisual packet. Lin teaches: MPEG cells or audio visual frames or slice per col.

2 line 10-36

Art Unit: 2661

***Prior Art***

8.0 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Ito et. al. (U.S. Patent No.: 6,052,734); Ito teaches: MPEG or audio visual packets have an identification code added to each packet so they can be identified and a priority portion added to each packet so the priority can be determined in the event of congestion so that discarding can be performed per col. 5 line 45-67.

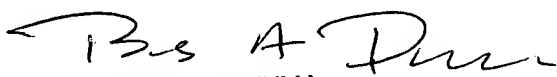
2. Suzuki et. al. (U.S. Patent No. : 6,590,902); Suzuki teaches PES sent in RTP and UDP.

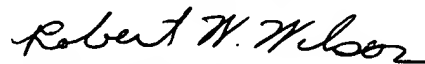
***Conclusion***

9.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).<sup>4</sup>

  
**BOB PHUNKULH**  
**PRIMARY EXAMINER**

  
Robert W Wilson

Application/Control Number: 09/809,215

Page 21

Art Unit: 2661

Examiner  
Art Unit 2661

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